North Dragon Sails

The purpose of this tuning-guide is to give our clients in the Dragon class some guidelines on how to get the most out of their North Sails. The tuning-guide was compiled by Jørgen Schönherr, Poul Richard Høj Jensen and Theis Palm.

Always experiment and try finding your own trim using these guidelines. The weight of the crew, the balance of the boat, the stiffness of the mast together with specific local wind and sea conditions all have influence on the fastest and final trim.

Mast Trim

Before stepping the mast in the boat, some very important measurements have to be checked to follow this tuning-guide correctly:

1. Lead the upper shrouds and forestay along the mast, the upper have to be out of the spreader tips. Pull them as hard as you can and put a mark on all three wires at the top at the black band on the mast (it is 80 cm above deck level). These three marks are now used to check if the mast is straight from side to side in the boat, and to check the mast rake.

2. All measurements for the mast position is made from station 4, (you find station 4 between the forestay and the mast) which is marked on both port and starboard side of the hull with a dot. Draw a line in between the points. From the middle of this line to the front end of the mast (without spinnaker pole track) See the distance in the on the water tuning guide below.

3. The mast rake is set by first fixing the forestay on the deck 1,86 cm from the front side of the mast. (This is the max. distance allowed in the class - rules). Then measure the distance from the black mark on the forestay to the deck (along the forestay). See the distance in the on teh water tuning guide below.

4. The upper shrouds proper position is located measuring perpendicularly from the line on station 4 to where the shroud enters the deck. See the distance in the on the water tuning guide below. For light crews (220-240 kg) we recommend to leave the shrouds one hole forward.

5. The lower shrouds are placed in the hole just behind the top shrouds (approx. 3 cm), so that they don't hold the mast back when going downwind.

6. The marks on the top shrouds (from step 1) are now used to control if the mast is placed in the middle of the boat. This is done best by measuring the distance from the mark to the deck. This should be the same on both sides. It is very important, that the mast is straight from side to side and not being distorted at deck level.

7. Setting up forestay tension, put the mast in strong wind position (tension 20 on the uppers and 8 on lowers). Next, put the tension gauge on the forestay around the black mark. Pull runners until the gauge reads 30. Make tape on runner exit above deck. Do the same on the other side. Now you are sure both runners have the same tension on the mark set-up. When you ease the runners until the forestay is just tight, the tape mark will be 15 cm above the deck as the uppers are both the same length.

8. The jumpers are adjusted by pulling the permanent backstay. Then look up along the sail track and check that the jumpers are equally tight on both sides. If this is not the case, they should be adjusted till the mast is completely straight.

9. All rig tension measurements we have used a Loose Gauge PT-2M. To get a more precise reading, cut the plastic of the upper shroud about 1.2 m above deck. You find all setting in the chart on the other side.

10. The lower shrouds are tensioned, so that the mast is completely straight in the boat up to 20-22 knots. From here on tighten them till the mast drops 5-10 cm off to leeward where the forestay meets the mast - the exact measurement is dependant on crew weight.